AMENDMENTS TO THE CLAIMS

1. (Previously Presented) A method of detecting the presence of slag in a shroud for guiding molten metal from a ladle to a tundish, the method comprising:

generating, by means of at least one transmitting coil, an electromagnetic field that enters the shroud and its contents;

generating an induced voltage by means of at least one receiving coil which is subjected to the electromagnetic field having entered the shroud and its contents, wherein any induced voltage having a value outside a defined voltage range is indicative of the presence of slag in said contents;

determining the flow of the molten metal passing through the shroud; and

defining said voltage range depending on the magnitude of the determined flow of molten metal.

2. (Previously Presented) The method as claimed in claim 1, further comprising:

keeping the coils substantially unmovable relative to the shroud.

3. (Previously Presented) The method as claimed in claim 1, further comprising:

providing a forked coil holder having at least two branches;

mounting the transmitting coil to a first branch and the receiving coil to a second branch of the forked coil holder; and

placing the forked coil holder in such manner that an imagined straight line drawn between the transmitting coil and the receiving coil crosses the shroud.

4. (Previously Presented) The method as claimed in claim 3, wherein the act of placing the forked coil holder comprises mounting said forked coil holder to a shroud manipulator.

5. (Previously Presented) The method as claimed in claim 3, wherein the act of placing the forked coil holder comprises mounting said forked coil holder to a separate mounting device that is arranged to follow the position of the shroud.

6. (Previously Presented) The method as claimed in claim 3, wherein the act of placing the forked coil holder comprises mounting said forked coil holder to a sliding gate at the ladle.

7. (Previously Presented) The method as claimed in claim 1, further comprising:

providing said at least one transmitting coil in toroid form and arranging it so as to surround the shroud, and

providing said at least one receiving coil in toroid form and arranging it so as to surround the shroud.

8. (Previously Presented) The method as claimed in claim 1, further comprising:

detecting turbulent flow, if any, inside the shroud; and

changing the frequency of the electromagnetic field generated by the transmitting coil in case of turbulent flow having been detected.

9. (Previously Presented) The method as claimed in claim 1, further comprising generating, by means of said at least one transmitting coil:

an electromagnetic field of alternating frequencies, or

several electromagnetic fields with different frequencies.

10. (Previously Presented) The method as claimed in claim 1, further comprising:

defining a larger voltage range if it is determined that the magnitude of the flow of molten metal has decreased.

11. (Previously Presented) The method as claimed in claim 1, wherein the act of determining the flow of molten metal passing through the shroud comprises:

providing feedback from an opening position signal of a sliding gate at the ladle and calculating the flow of molten metal from the sliding gate opening information.

12. (Previously Presented) The method as claimed in claim 1, wherein the act of determining the flow of molten metal passing through the shroud comprises:

measuring the rate of decrease in weight of the ladle content and calculating the flow of molten metal from said measured rate of decrease in weight.

13. (Previously Presented) The method as claimed in claim 1, wherein the act of determining the flow of molten metal passing through the shroud comprises:

measuring the teeming rate in the tundish and calculating the flow of molten metal from said measured teeming rate.

14. (Previously Presented) The method as claimed in claim 1, further comprising:

cooling said transmitting and receiving coils.

15. (Previously Presented) A device for detecting the presence of slag in a shroud for guiding molten metal from a ladle to a tundish, comprising:

at least one transmitting coil for generating an electromagnetic field to be entered into the shroud and its contents;

at least one receiving coil for receiving the electromagnetic field that has entered the shroud and its contents, and for generating an induced voltage, wherein any induced voltage having a value outside a defined voltage range is indicative of the presence of slag in said contents;

means for determining the flow of the molten metal passing through the shroud; and

means for defining said voltage range depending on the magnitude of the measured flow.

16. (Previously Presented) The device as claimed in claim 15, further comprising a coil holder arrangement which is mountable in such manner that the coils are enabled to substantially follow positional variations of the shroud.

17. (Previously Presented) A device as claimed in claim 16, wherein said coil holder arrangement comprises a forked coil holder having at least two branches, a first branch carrying the at least one transmitting coil and a second branch carrying the at least one receiving coil, the two branches being placeable in such manner that the shroud is located between them.

18. (Previously Presented) The device as claimed in claim 17, wherein the forked coil holder is adapted to be mounted to a shroud manipulator.

19. (Previously Presented) The device as claimed in claim 17, wherein the forked coil holder is adapted to be mounted to a separate mounting device which is arranged to follow the position of the shroud.

20. (Previously Presented) The device as claimed in claim 17, wherein the forked coil holder is adapted to be mounted to a sliding gate at the ladle.

21. (Previously Presented) The device as claimed in claim 17, wherein said two branches are electrically isolated from each other.

22. (Previously Presented) The device as claimed in claim 15, wherein said coils are in the form of toroids, wherein said coil holder arrangement is adapted to hold each toroid in such manner that it surrounds the shroud.

23. (Previously Presented) The device as claimed in claim 15, wherein said means for determining the flow of the molten metal passing through the shroud comprises:

a sensor for sensing an opening position signal of a sliding gate at the ladle, and

a processor for calculating the flow of molten metal from the sliding gate opening information.

24. (Previously Presented) The device as claimed in claim 15, wherein said means for determining the flow of the molten metal passing through the shroud comprises:

a measuring device for measuring the rate of decrease in weight of the ladle content, and

a processor for calculating the flow of molten metal from said measured rate of decrease in weight.

25. (Previously Presented) The device as claimed in claim 15, wherein said means for determining the flow of the molten metal passing through the shroud comprises:

a measuring device for measuring the teeming rate in the tundish, and

a processor for calculating the flow of molten metal from said measured teeming rate.

26. (Previously Presented) The device as claimed in claim 15, wherein the transmitting and receiving coils are provided with directional elements, such as a core, for directing the electromagnetic field towards and from the shroud.

27. (Currently Amended) A device as claimed in claim 15, further comprising a casting plant, ~~comprising~~the casting plant including:

a ladle adapted to contain molten metal;

a tundish adapted to receive molten metal from the ladle;

a shroud arranged between the ladle and the tundish, wherein molten metal is enabled to pass from the ladle, through the shroud, and to the tundish.